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ABSTRACT

An examination of attitudinal investigations which will be helpful and practical for both researchers and practitioners interested in attitudinal research dealing with handicapped students is provided. The measurement techniques which have been used to study professional, peer and parent attitudes are the primary focus of address with fairly brief attention being given to the findings. Sections outline the following methods used in data collection: (1) attitude scales including Likert-type, equal-appearing interval, and Guttman; (2) rank-order scales and items including picture ranking procedures; (3) Q-sorts; (4) paired comparisons; (5) semantic differential technique; (6) adjective checklists; (7) sociometric procedures; (8) interviews; (9) observations of behavior; (10) projective methods; (11) some special techniques and measures including physiological reactions and the "Bogus Pipeline," and mainstreaming questionnaires; and (12) some commonly used instruments including Attitude Toward Blindness Scale, Attitude Toward Disabled Persons Scale, Attitude Toward Handicapped Individuals Scale, Mental Retardation Attitude Inventory, Minnesota Teacher Attitude Inventory Revised, Parental Attitude Research Instrument, Rucker-Gable Educational Programming Scale, and Workshop Evaluation Inventory. (RL)

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How Attitudes are Measured: A Review of Investigations of Professional, Peer, and Parent Attitudes Toward the Handicapped

by

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PREFACE

In the past, handicapped children have received services primarily in segregated settings thought to be more responsive to their individuality. Recent legislation (P.L. 93-380 and P.L. 94-142) requires a comprehensive evaluation to determine individual student goals and objectives and a resulting educational placement in accordance with the "least restrictive alternative" concept. In summary, this means that handicapped and nonhandicapped individuals will have increasing contact with each other.

A major concern is the attitudes and expectations professionals and peers, as well as parents, have toward handicapped students since these attitudes may affect their ultimate social, psychological, and emotional growth and functioning in society. Accordingly, the objective of this monograph is to provide an examination of attitudinal investigations which will be helpful and practical for both researchers and practitioners interested in attitudinal research dealing with handicapped students.

The monograph addresses itself mainly to the measurement techniques which have been used to study professional, peer, and parent attitudes, with fairly brief attention given to the findings. Sections outline methods used in data collection and are succeeded by illustrative studies. For a more detailed discussion of instrumentation, and the advantages and disadvantages of each method, the reader may consult the many outstanding available measurement texts.

INTRODUCTION

Attitude has been defined in various ways in the literature (Lemon, 1973; Fishbein & Ajzen, 1975) although most attitude theorists would accept a description of attitude as "a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" (Fishbein & Ajzen, p. 10). Generally, attitudes have been thought to consist of components of affect, cognition and behavior: 1) the affective component is evaluative in nature and refers to a person's evaluation of or feelings toward an object or person; 2) the cognitive component of attitudes consists of the ideas or beliefs a person holds toward the object or person; and 3) the behavioral component represents a person's intended actions toward the object or person. Fishbein and Ajzen also prefer to differentiate between behavioral intentions and actual behavior; they also suggest that these components should be recognized in attitudinal studies. This study will show, however, that educational researchers generally treat attitude as a unidimensional construct.

One of the most controversial issues related to the attitude construct is the relationship of attitudes to behavior (Ajzen & Fishbein, 1977; Kiesler, Collins, & Miller, 1969; Fishbein & Ajzen). Within the realm of educational research, investigations to ascertain this relationship suggest that professional, peer, and parent attitudes may be reflected in the behaviors such persons exhibit toward pupils (Brophy & Good, 1970; Good & Brophy, 1972; Good, Cooper, & Blakey, 1980; Kester & Letchworth, 1972; Rothbart, Dalfen, & Barrett, 1971; Rubovits & Maehr, 1971; Silberman, 1969). Since positive interactions are essential for the normal growth and development of the individual, we need to increase our understanding

of the attitude construct and its implications for handicapped students. As it is now, "normal," "achieving" students seem to be the most admired and accepted.

ATTITUDE SCALES

There are three major types of attitude scales: summated rating scales, equal-appearing interval scales, and cumulative or Guttman scales. Likert-type rating scales appear to be the most popular technique, followed by equal-appearing interval scales and the less popular Guttman scale.

Likert-type Scales

The method of summated ratings represents one of the major types of attitude scales. One type of summated rating scale is the Likert (1932) scale. Within this format, subjects are asked to indicate the extent to which they agree or disagree with an attitude statement. For example, using a five-point scale, respondents would select from the following choices:

strongly agree	agree	uncertain	disagree	strongly disagree
(5)	(4)	(3)	(2)	(1)

The numerical values assigned each choice (indicated in the parentheses) are summed for the statements, or summed and averaged to indicate an attitude score.

Likert developed a procedure whereby statements are assigned a positive or negative value. When this method is used, the investigator develops attitude statements, and judges whether they are positive or negative. Then the statements are administered to a sample of individuals and their responses are recorded. A group of high scorers (or those with positive attitudes) and a group of low scorers (or those with negative attitudes) are identified within this sample. These high and low groups

serve as criterion groups for evaluating each of the attitude statements. A statistical procedure (t test) is used to determine if a particular attitude statement differentiates between the high group (or those with positive attitudes) and the low group (or those with negative attitudes). Statements which discriminate best are used in the final scale.

Unfortunately, most investigators who use Likert scales have not adhered to these procedures. Although their scales in fact contain Likert-type items, that is, the statements and response alternatives resemble those developed by Likert, their scales are not actually Likert scales.

There are numerous examples of such Likert-type scales. For example, Efron and Efron (1967) designed a 70-item questionnaire to study teacher attitudes toward the retarded. The subjects responded to each of the attitude statements using a six-point continuum (strongly agree, agree, not sure but probably agree, not sure but probably disagree, disagree, and strongly disagree). A sample item from the questionnaire was "It would be kinder to establish separate communities for retardates where they would not feel so out of place" (p. 103). Six relevant dimensions in the measurement of attitudes toward mental retardation were identified.

In one investigation (Whiteman & Lukoff, 1964), Likert-type items were used to identify differences and similarities in the attitudes social workers and evening students had toward blindness. Another study (Berman & Fry, 1978) required that student teachers evaluate case reports using Likert-type items. Those reports which described students as having been in an automobile accident or transferring into a school

district were more positively evaluated than the report which described a student who had been hospitalized for a schizophrenic episode. Carroll and Reppucci (1978) also used Likert-type items for case report evaluations. In this study, findings indicated that the labels, "mentally retarded," "emotionally disturbed," and "juvenile deliquent" were differentially perceived by groups of teachers and mental health workers.

Sometimes investigators incorporate Likert-type scales within their overall methodology. These scales most often consist of between five and twenty-five items. When Gottlieb and Corman (1975), and Gottlieb and Siperstein (1976), administered five-point Likert-type scales to adult community members, they found that attitudes toward mentally retarded children and adults were negative.

Likert-type scales have also been used with students. Fourth-grade students rated their acceptance of students seen in a videotape, using a five-point Likert-type scale, in a study which demonstrated the effect of teacher behavior on student attitudes (Foley, 1979). A three-point scale with 25 items was administered to ninth graders to investigate the effect of contact on attitudes. This measure consisted of positive statements such as "A special class teenager can be as useful to the school as any teenager," and negative statements such as "I believe having special class teenagers in our school will give our school a bad name." Findings showed that contact via mainstreaming and group activities enhanced the positivity of the students (Sheare, 1974). Another investigation (Peterson, 1974) of the effect of contact on student attitudes toward the retarded, used an agree-disagree scale to measure thoughts and feelings about the retarded, and a five-point rating scale to measure personality

characteristics. The findings were not consistent; contact had a positive effect only for the agree-disagree scale items.

Among the investigations of parents, there are also examples of the use of Likert-type scales. For example, Gumz and Gubrium (1972) developed 32 Likert-type items to compare the perceptions mothers and fathers had of their retarded child and discovered some differences.

Equal-appearing Interval Scales

In 1925 Bogardus developed the original social distance scale which provided for ordinal level measurement of attitudes. He discussed the concept of social distance as referring "to the degrees and grades of understanding and feelings that persons experience regarding each other" (p.216). In order to measure social distance toward various nationalities, Bogardus developed seven statements; respondents were asked to indicate their feelings or whether or not they would accept an individual from a nationality group as "close kinship by marriage" the most positive statement, or instead "would exclude from my country" the most negative statement.

A method for assigning specific scale values to items or statements representing different degrees of favorable attitudes along a psychological continuum from positive to negative was developed later (Thurstone & Chave, 1929). When Thurstone and Chave's method is used, statements are created and then sorted by judges who indicate how positive or negative the item is. In developing a scale to measure attitudes toward the church, they used a graphical method to determine the degree of ambiguity and the scale values for 130 statements about the church which were sorted into eleven piles by judges. (See Edwards, 1957, report on a formula procedure for scaling which is considerably easier to use.)

This procedure (with some modifications) was used by Bogardus (1932) in creating A Social Distance Scale to measure attitudes toward race, occupations, and religion. Sixty statements were developed and rated by judges. The final scale consisted of seven equal-interval scale value items: (1) Would marry; (2) Would have as regular friends; (3) Would work beside in an office; (4) Would have several families in my neighborhood; (5) Would have merely as speaking acquaintances; (6) Would have live outside my neighborhood; and (7) Would have live outside my country. Respondents selected a statement that described their feelings toward each race, occupation, and religion.

Tringo (1970) developed a Disability Social Scale based on the Bogardus (1925) scale. He selected items, added more negative statements, and used Thurstone and Chave's sorting and scaling procedures to arrive at scale values for a group of statements. The nine items and their scale values were: Would marry (.33); Would accept as a close kin by marriage (.57); Would have as a next door neighbor (.85); Would accept as a casual friend (1.06); Would accept as a fellow employee (1.21); Would keep away from (2.95); Would keep in an institution (3.14); Would send out of my country (3.65); and Would put to death (4.69). When the instrument was administed to subjects from various backgrounds (e.g., high school students, undergraduates in varied disciplines, undergraduate education majors, undergraduate physical therapy majors, graduate students, and rehabilitation workers), who were asked to indicate their attitudes toward 21 disability groups, a consistent hierarchy of preference was found for these samples.

The Perception of Social Closeness Scale (Horne, 1977) was developed to measure classroom social distance. This scale (developed using

Thurstone and Chave's procedure) has the advantage of providing interval level measurement of pupil and teacher attitudes toward every other class member. The instrument has been used to measure peer status (Horne, Seidner, & Harasymiw, 1978) and student attitudes toward disability and occupation groups (Harasymiw, Horne, and Lewis, 1976a; Harasymiw, Horne, and Lewis, 1976b; Harasymiw, Horne, and Lewis, 1977). The five-item scale (there is also a seven-item form) and the interval values for the statements are as follows: (1) Would like to invite to my home (2.040); (2) Would like to spend time with on the playground (3.013); (3) Would like to spend some time with once in a while (4.740); (4) Would like to be more like other students (5.390); and (5) Would like to leave me alone (6.802).

Social distance scales which are ordinal in nature and modeled after Bogardus's 1925 scale have also been devised and administered to children (Horne, 1978; Siperstein & Gottlieb, 1977; Westervelt & McKinney, 1980), and adults (Shears & Jensema, 1969). Hollinger and Jones (1970) used a social distance scale to measure community attitudes toward mental retardation and slow learners. Respondents completed the same scale first with the term, "slow learner," and then with the term, "mentally retarded." The eight items were scored from 7 (acceptance) to 0 (rejection). In this study there was greater community acceptance for the term, "slow learner."

A version of the Comfortable Interpersonal Distance Scale (Duke & Nowicki, 1972) represents a visual approach to social distance measurement. This instrument requires that the respondent indicate in a diagram how close he would like to be to other people. The procedure was used (Schaefer & Brown, 1976) to measure the attitudes of young emotionally

disturbed boys towards other students with different ethnic origins, who were all residing in a residential treatment center.

Guttman Scales

Cumulative or Guttman scales (Guttman, 1944, 1947, and 1950) consist of a series of statements which are thought to be unidimensional. In the case of attitude statements, this means that statements span a continuum of favorability from most positive to most negative. If the statements form a continuum, or are cumulative, it is possible to predict responses to individual items from a total or final score. A coefficient of reproductibility is computed to determine the degree to which individual patterns of scores may be reproduced from the total score, or putting it another way, the extent to which the ordering of the statements forms an accurate continuum (coefficients greater than .9 are considered acceptable.) It is important to understand that cumulative scales provide ordinal level measurement. The items may resemble those found, for example, in Tringo's social distance scale discussed previously, but the interval or psychological distance between the items is unknown.

For example, Yamamoto and Dizney (1967) constructed the Tolerance Scale with the following continuum of tolerance levels: classmate, fellow organizational member, co-worker, roommate, date, marriage partner. Student teachers read descriptive paragraphs about individuals (paranoid schizophrenic, depressed neurotic, simple schizophrenic, phobic compulsive, normal healthy) and indicated for each description whether or not they would tolerate the person at each level. In this scale, a student teacher who answered yes to marriage partner would be expected to answer yes to all preceding statements. Another student teacher, who answered

yes to roommate and no to date, would be expected to answer yes to classmate, fellow organizational member and co-worker and no to marriage partner. Of course, the first subject has a higher tolerance score. The results for this study indicated that all other types of individuals were significantly less tolerated than "normal healthy" persons.

The Tolerance Scale was also used in an investigation (Yamamoto & Wiersma, 1967) which explored the relationship between self esteem (also measured using a Guttman scale), tolerance, and attitudes toward the disabled. Contrary to expectations, higher self esteem was related to intolerance.

RANK-ORDER SCALES AND ITEMS

A common measurement procedure involves asking respondents to rank items according to some particular criterion.

For example, the Handicapped Ranking Scale (Barsch, 1964) was used to explore feelings of severity of disability. Mothers and fathers of handicapped and nonhandicapped students and 18 other homogeneous subsamples totaling 2,375 subjects were in general agreement. Ten handicapping conditions of childhood were listed; the directions were to rank them from one to ten, according to severity. From most to least severe, for the total sample, were cerebral palsy, mental retardation, mental illness, brain injury, blindness, epilepsy, deafness, polio, heart trouble, and diabetes.

Similarly, undergraduate students from two universities were asked to rank fifteen conditions "in the order of their acceptability to you." No further directions were provided. There was little variability in the responses of the two student groups and, in fact, the four most

acceptable conditions were the same as those found by Tringo using a social distrance scale described above. The rankings from most to least acceptable were: ulcer, asthma, diabetes, arthritis, learning disability, speech defect, deafness, epilepsy, tuberculosis, amputee, blindness, cancer, mental illness, cerebral palsy, and mental retardation (Abroms & Kodera, 1979).

Another example of a ranking scale is the Educating Exceptional Children Questionnaire (Orlansky, 1979). This instrument consists of two rank order scales. In the first, respondents rank eight exceptionalities from "most in need" to "least in need" of special education services. On the second scale, respondents rank exceptional groups from those they would "most like to work with," to those they would "least like to work with." This scale was used by Orlansky to determine whether or not there would be attitude differences in students taking an introductory course in special education taught using two different methods. Gains and losses on stability in rank standing were computed between the pre- and posttest.

Other scales include one which asked regular elementary classroom teachers, and teachers of educable retarded, to rank the following in order of importance in their classrooms: good citizenship, social adjustment, reading achievement, personal adjustment, and academic importance. Findings indicated that special class teachers placed greater emphasis on personal and social adjustment (Fine, 1967). In another investigation (Kvaraceus, 1956), eight exceptionalities were listed, and respondents were required to pick the group they most preferred to work with, least preferred to work with, knew most about,

and knew least about. The greatest percentage of subjects preferred teaching the gifted.

Picture Ranking Procedures

Several investigations of children's attitudes have used pictures for ranking, but the procedure has also been used with adults. Richardson, Goodman, Hastorf, and Dornbusch (1961) used a series of drawings to investigate attitudes of black, white, and Puerto Rican handicapped and nonhandicapped children: drawings showed a child who (1) had no physical handicap; (2) had crutches and a brace on the left leg; (3) was sitting in a wheelchair with a blanket covering both legs; (4) had the left hand missing; (5) had a facial disfigurement on the left side of the mouth; and (6) was obese. Identical male and female drawings were prepared and children responded to drawings of their own sex by ranking the children in the pictures from most to least preferred. It is interesting to note that rankings were consistent and that children ranked the child without a handicap highest.

These drawings were also used in studies which supported cultural uniformity of attitudes (Goodman, Dornbusch, Richardson, & Hastorf, 1963; Chigier & Chigier, 1968); potency of physical handicaps as opposed to race as an attitudinal factor (Richardson & Royce, 1968); and age relatedness of handicap preferences (Richardson, 1970). Chigier and Chigier concluded that the picture ranking test has several advantages: the measure 1) is easy to administer to large groups in a short period of time; 2) overcomes language barrier problems and cultural factors of dress and skin coloring; and 3) is a task children enjoy.

One study used a set of pictures similar to those first used by

Richardson et al. (1961) to test the cultural uniformity hypothesis in a sample of high school students (Matthews & Westie, 1966). A seven-item social distance scale was also administered. Findings indicated that the results using pictures did not support the cultural uniformity hypothesis; the results, however, for the social distance scale did. The authors suggested, therefore, that a social distance scale is a more subtle procedure and "may produce more complete, and perhaps more valid results" (p. 854).

Jones and Sisk (1967) used pictures to test very young children. The nondisabled population aged two through six were shown a picture of a child of their own sex, with and without leg braces, and were asked a series of questions about acceptance, and the effect a disability has on a person. Findings indicated no differences in the perceptions of children in the two- to four-year-old age groups, although five-year-olds were more rejecting.

Q-SORTS

Q-sorting is really a more precise ranking procedure which requires that respondents sort objects, words, or statements into piles according to some criterion. For example, a variety of statements (usually between 60 and 140) about handicapped persons may be typed on cards; respondents are asked to sort the statements into a specified number of piles (the number of statements per pile may also be specified) indicating the extent to which they agree or disagree with the statement. Intra- and interindividual comparisons of the way the cards are sorted may be undertaken. As a consequence, Q-sorting may be an effective procedure to use in studies of attitude change where the effects may be quite minimal and may vary from individual to individual.

Q-methodology (see Stephenson, 1953; 1964 for a complete discussion of structured versus unstructured Q-sorts) has also been discussed as a utilitarian approach to theory testing, since factors or underlying ideas behind the items may be revealed. Q-methodology has not been used very often in research on attitudes toward handicapped students. An exception is a study done by Schaver and Scheibe (1967) who used J. Block's (1961) 70-item Q-sort procedure to test college students' attitudes toward mental illness, before and after volunteer work in a summer camp for the mentally ill. There were no significant differences.

PAIRED COMPARISONS

When the method of paired comparisons is used, all the persons of objects to be rated are paired with each other in all possible combinations. Respondents must choose the one from each pair they prefer on the basis of some criterion. The procedure results in a preference ranking, but scale values indicating the degree of acceptance or the actual psychological distances between the stimuli may also be computed (see Edwards 1957, for a discussion of computational procedures). Perhaps the major problem with the paired comparisons methods is that it is time consuming for the investigator and tiring for the respondent. For example, if 15 exceptionalities are compared, then respondents must be presented with 105 comparisons or n(n-1)12. Jones, Gottfried and Owens (1966) used the paired comparisons method to measure high school students' attitudes toward thirteen disability groups. Students were asked to choose which disability group they would prefer in a particular social distance interpersonal situation and to choose from pairs such as,

"I would accept this person as a neighbor" or "I would invite this person to visit my home." Results indicated: 1) the gifted and average were most preferred; 2) in some cases disability groups acceptance was dependent upon the interpersonal situation; and 3) the mentally retarded were generally not accepted.

THE SEMANTIC DIFFERENTIAL TECHNIQUE

The semantic differential procedure was designed by Osgood, Suci, and Tannenbaum (1957) to measure affect associated with any attitude object. According to Osgood, et al., there are many dimensions, or factors of meaning associated with attitude, but the major ones are evaluation, potency, and activity. These may be represented using bipolar adjectives or scales. Evaluative object pairs, such as good-bad, clean-dirty, and nice-ugly, focus on goodness or value. Other adjectives represent potency, or the idea or meaning of the concept (large-small, strong-weak or heavy-light), and finally, some adjectives express activity (active-passive, fast-slow, and sharp-dull). Osgood has identified 50 adjective pairs, especially tested them, and provided their factor loadings on each of these dimensions.

Coefficients of test-retest reliability (.87, .83, .91) have been reported in investigations of attitudes toward blacks, the church, and capital punishment (Osgood and Suci, 1955). Validity studies of evaluative scales showed correlation coefficients of .74 to .82 with Thurstone scales and .78 with Guttman scales (Osgood and Suci).

The semantic differential is easy to use and, perhaps as a consequence, has been employed in may attitude investigations. Once the concept to be

measured is identified, adjective pairs may be selected. The criteria for selecting the bipolar adjectives have to do with factor representativeness and relevance to the concept being investigated. Generally, evaluation, potency, and activity pairs are chosen; however, in attitudinal research it is common to use only the evaluation factor. Usually the adjective pairs presented by Osgood and his colleagues provide an adequate resource; however, investigators have also substituted their own. Although factorial identity and content should be determined, this procedure rarely occurs.

Osgood et al. recommended a seven-point scale in the use of the semantic differential technique; however, three-, five-, and nine-point scales have been used by some investigators. When the semantic differential technique is used, the concept is placed at the top of the page and the subject is asked to indicate his or her attitude position. The actual format appears below:

Learning Disabilities

bad	____	____	____	____	____	____	____	good
active	____	____	____	____	____	____	____	passive
large	____	____	____	____	____	____	____	small

The semantic differential technique has been used with professionals, peers, and parents to measure attitudes toward various exceptionalities; (Halpin, Halpin & Tillman, 1973; Noe, 1970); to identify hierarchies of attitudes toward disabilities (Buttery, 1978); and to explore the efficacy of attitude modification procedures (Brooks & Bransford, 1971).

Panda and Bartel (1972) selected nine scales from those developed by Osgood, Suci, and Tannenbaum (evaluative scales of good-bad, ugly-beautiful,

clean-dirty; potency scales of large-small, strong-weak and rugged-delicate; and activity scales of sharp-dull, active-passive and slow-fast) to measure the concepts of normal, gifted, mentally retarded, emotionally maladjusted, delinquent, deaf, blind, epileptic, culturally deprived, speech impaired, and crippled. Attitudes of teachers who did not have training or experience with exceptional students were compared to those of teachers with such experience and training. Results did not support greater positivity on the part of teachers with training and experience; the exceptionalities were differentially perceived on all scales; and compared with normals and gifted, all others were rated low.

In another study of teacher attitudes (Casey, 1978), ten scales were selected on the basis of a skewness and kurtosis of analysis of the results obtained by administering twenty scales to a pilot sample of regular classroom teachers. The scales were: good-bad, beautiful-ugly, sweet-sour, outgoing-withdrawn, gentle-aggressive, independent-dependent, honest-dishonest, happy-sad, polite-impolite, friendly-unfriendly. Since four of these scales were not used by Osgood, et al., a test-retest reliability study was done with twenty subjects (retested after eight days). The test-retest correlation coefficient was .66. The concepts measured were attitudes toward physically handicapped children, emotionally disturbed children, mentally retarded children, and speech impaired children. Findings showed that emotionally disturbed children were more negatively evaluated than the other groups; there was also no evidence of a relationship between teacher attitudes, their age, contact, teaching experience, and knowledge.

Greenbaum and Wang (1965) studied attitudes toward mental retardation in four groups: parents with a retarded child, professionals expected to

have contact with the mentally retarded, paraprofessionals working in institutions for the retarded, and possible employers of the retarded. Twenty bipolar adjective scales were used to measure five factors. Three items to measure activity, potency, and evaluation reflected the work of Osgood et al., and loaded highly on these factors. Scales for social stimulus (easy to get along with--hard to get along with, neat-sloppy, not dangerous--dangerous, self-reliant--dependent, reliable--unreliable); health (healthy--sick, not physically handicapped--physically handicapped); and psychological attributes (not neurotic--neurotic, intelligent--unintelligent, calm--emotional, independent--suggestible, relaxed--tense) were developed for the study. The data showed that paraprofessionals and parents were more favorable toward the retarded than professionals were; however, all groups were generally negative in their attitudes, and were more positive toward the mentally ill.

The semantic differential technique has also been used as a rating device for case studies (Jaffee, 1972) and vignettes. When the results using vignettes are compared to the findings for labels (Jaffee, 1966; 1967) it appears that the ratings are more favorable for vignettes.

Even young children have been tested using the semantic differential technique. Rapier, Adelson, Carey, and Croke (1972) used twenty pairs of bipolar adjectives in modified form with a three-point scale. Children were asked to circle the phrase "that best tells about physically handicapped children" (e.g., "don't need help," "need help," "need lots of help"). Children were tested before an orthopedically handicapped unit was opened on the school grounds and again one year later, when all

children would have had at least one handicapped child in their classroom for some part of the day. Results indicated that contact increased positivity.

Numerous other studies using the semantic differential have found that peers have negative attitudes toward emotional disturbance (Novak, 1974; 1975); that contact may not affect attitudes (Strauch, 1970); and that psychological adjustment may or may not be related to the degree of acceptance (Gottlieb, 1969; Gottlieb, Cohen & Goldstein, 1974).

ADJECTIVE CHECKLISTS

The adjective checklist technique has been used to measure attitudes at least since the 1930s. When this procedure is used, positive and negative adjectives are selected to describe some particular person, group, or product (Gough, 1960).

Parish, Bryant, and Sherazi (1976) chose adjectives from the Adjective Checklist developed by Gough (1952) to develop the Personal Attribute Inventory to measure affective reactions. College students were asked to rate the adjectives as positive or negative labels of persons; the Inventory consists of 50 positive and 50 negative adjectives randomly selected from those for which students showed 95 percent agreement. Administration of the test requires that respondents select 30 words from the 100-word list which are most descriptive of a group or person; the attitude score is the total number of negative adjectives selected. The reliability and validity of the Inventory, obtained using the scale to measure attitudes toward Negroes, is adequate.

The Personal Attribute Inventory was used to study the effect of an introductory special education course on attitudes of undergraduate education

and special education majors. The experience did not affect the student's attitudes, although special education majors were generally more positive toward exceptionality labels (Parish, Eads, Reece & Piscitello, 1977). When the scale was administered to teachers and participants in conference on learning disabilities, results indicated that gifted, normal, and physically handicapped children were rated more positively than mentally retarded, learning disabled, and emotionally disturbed children (Parish, Dyck & Kappes, 1979).

Worchel and Worchel's (1961) modification of the Index of Adjustment and Values (Rogers & Dymond, 1954) demonstrated a combined use of adjectives and Likert-type rating methods. A measure of self-concept, the Index was adapted to measure the attitudes of parents toward mentally retarded children, most children, and their concept of a desirable child. The instrument consisted of three statements: (1) My child...; (2) I wish my child were...; and (3) Most children are.... Forty adjectives were listed following the three statements (e.g., anxious, busy, cruel, docile, jealous, nervous) along with a seven-point Likert-type scale to identify the degree to which parents thought each trait was applicable to their child. An indirect measure of attitudes was obtained by examining the discrepancies between ratings for the three statements. Parents with two or more children, one of whom was retarded, completed the scale for each of their children; findings generally supported parental rejection of retarded children.

Another variation of the adjective checklist procedure was used in an investigation supporting the negative effect of labels on teacher attitudes

(Combs & Harper, 1967). A checklist which contained 20 positive and five negative adjectives was developed to rate behavioral descriptions. The negative adjectives were selected from a group of 40 negative terms that a sample of teachers had previously rated, and the positive adjectives were selected from those used by Worchel and Worchel. Test-retest reliability ($r = .71$) was obtained using a sample of 20 college students over a two-week period. Teachers rated each adjective in terms of its applicability to behavioral descriptions using a five-point Likert-type scale; their score was the sum of the ratings for the negative terms.

Adjective checklists have also been used with students. Davidson and Lang (1960) used the adjective checklist procedure to investigate students' perceptions of their teachers' feelings toward them. They developed an adjective selection procedure which involved teachers and students, and established reliability and validity for 35 adjectives. Findings showed that students' self perceptions and teachers' feelings were significantly and positively correlated. Other studies using adjective checklists with students have demonstrated that labels may not effect attitudes (Gottlieb, 1974); physical appearance may influence attitudes (Siperstein & Gottlieb, 1977); and acceptance may be higher for crippled than for mentally retarded children (Gottlieb & Gottlieb, 1977).

SOCIOMETRIC PROCEDURES

Sociometric questionnaires have been used extensively in investigations of classroom relationships (Gronlund, 1959). Peer nomination (Moreno, 1934), a procedure often used, requires group members to indicate choices for companions on the basis of some criterion (e.g., McGinley and McGinley,

1970, asked students which classmates they prefer to work with). These procedures have been useful in determining the attitudes classroom members have toward each other.

Noll and Scannell (1972) however, have also pointed out the limitations of sociometrics. A major shortcoming is that they do not require students to respond in some way to each and every other student in the class. Generally only two or three choices are requested. Consequently, discrepancies among positive and negative feelings toward classroom members are not revealed. A second shortcoming, according to Noll and Scannell, involves the requirement that students may be asked to name "rejects" or students with whom they prefer not to associate. These authors, recognizing that there is considerable disagreement in the literature regarding the effect of this procedure, suggest negative responses be eliminated, since they tend to "emphasize negative feelings which would appear to have some undesirable aspects" (p. 458).

The roster-rating approach (Roistacher, 1974) calls for presenting students with a list of all the class members. This procedure prevents the elimination of students as choices because of forgetfulness on the part of classmates, which may occur when the nominating technique is used. Also, since responses for each student are obtained from every other class member, the status of the student in the classroom is measured more accurately. The approach correlates with peer nomination techniques (Justman & Wrightstone, 1951; Young, 1947) and is not any more time-consuming. One consideration for using the technique is evidence indicating that same-sex ratings may provide a more accurate measure of peer preferences (Bruininks, Rynders, & Gross, 1974).

Choosing Best and Least Liked Students

Many investigators have asked students to identify classmates they would or would not like to work with; invite or not invite to their birthday party; or play with or not play with (Bryan, 1974; 1976; 1978; Johnson & Kirk, 1950; Morgan, 1978; Stilwell, Brown, & Barclay, 1973). For example, in an investigation of the status of learning disabled students in 18 classrooms where there was an equal number of learning disabled students and non-learning disabled students, Hutton and Polo (1976) found, even under these circumstances, that learning disabled students were assigned a lower status by their peers. Students answered the following questions: (1) Which students in the class would you most like to work with on a work project - one that requires that you prepare a report to be given in class? (2) Which students in the class would you most like to be with in a play group - one in which you play games and have fun? (3) Which students would you least like to work with on a work project - one that requires you to prepare a report to be given in class? (4) Which students would you least like to be with in a play group - one in which you play games and have fun?

In some cases, children are assigned acceptance and rejection scores. Johnson (1950) individually interviewed students and computed acceptance and rejection scores based on the answers to questions about whom they did and did not like, want or not want to sit next to or play with. Mean acceptance and mean rejection scores for normal and mentally retarded students indicated that the handicapped were more rejected. Johnson also calculated a chance expectancy index for each classroom studied (as

reported by Bronfenbrenner, 1943) to make comparisons. With this formula, the probable number of stars, isolates, and rejected individuals per class is calculated in order to provide a "frame of reference against which data from diverse sociometric situations may be projected without distortion." (Bronfenbrenner, pp. 371-372). A very similar procedure was used to support the rejection of learning disabled students (Scranton & Ryckman, 1979).

The Ohio Social Acceptance Scale (Fordyce, Yauck, & Raths, 1946) was developed to measure elementary student attitudes toward peers. The measure consists of six descriptive paragraphs ranging from high acceptance to active rejection. After each paragraph is read, students select from a list of their classmates those who fit the particular description. The Scale, in its original or modified form, has been used in attitudinal investigations which evidenced the rejected status of the mentally retarded (Baldwin, 1958; Rucker & Vincenzo, 1970); the Scale has also been used to measure retarded students' perceived status (Rucker, Howe, & Snider, 1969).

Choosing Best Liked Students

Sometimes isolates, neglected individuals, and stars are identified only through the use of positive questions. Perrin (1954) found that speech impaired children were isolates in their classes as a result of asking students in grades one through six to respond to the following questions: (1) What three children would you like best to play with? (2) What three children would you like best to work with? (3) What three children would you like best to have sit next to you?

Siperstein, Bopp, and Bok (1978) found that learning disabled student status may be influenced by athletic ability and appearance

as well as academic ability. In their investigation these authors not only asked children to name the students they liked best, but to identify the "best athlete," "smartest" and "best looking."

Roster-Rating Procedures

When the roster-rating approach is used, students rate each class member. Sheare (1978) found that learning-disabled students are assigned lower status by peers using the Peer Acceptance Rating Scale (Sheare, 1975). Using this scale, students are given a list of the names of class members and are asked to choose a rating: (1) I like this person a lot; (2) I like this person; (3) Don't know this person very well; (4) Don't care for this person; and (5) Don't like this person at all.

Similarly, Gottlieb and Budoff (1973) found that educable mentally retarded students in open space and traditional school settings were rejected by peers. Names of students were read, and children responded for persons they knew by indicating they were a "friend," "alright," or they "wouldn't like" the person. This scale was also used in an investigation which showed that interventions can improve social status of handicapped children (Leyser & Gottlieb, 1980).

Visual stimuli have been incorporated in some roster-rating scales. In an investigation of the efficacy of cooperative activity groups to increase the status of retarded children (Ballard, Corman, Gottlieb & Kaufman, 1977), fourth- and fifth-grade children were pre- and posttested with a sociometric instrument which required them to look at a picture of and circle the one that indicated a face with a smile, frown, neutral expression or a question mark whether they liked, disliked, were neutral

about, or didn't know a student in their class. This measure was also used in an investigation supporting a relationship between academic competence and social acceptance, and misbehavior and rejection (Gottlieb, Semmel, & Veldman, 1978).

Perceived Status

How students think their peers feel about them, or perceived status, has also been measured using roster-rating scales. The Peer Acceptance Scale (Bruininks, Rynders, & Gross, 1974) contains stick figures of (a) two children playing well together; (b) two children writing at the blackboard; and (c) two children who have their backs toward each other. The figures are labelled underneath, "friend," "alright," and "wouldn't like." Using this scale, Bruininks (1978) found that learning disabled students were assigned lower status by peers.

Miller (1956) devised an instrument to use with superior, typical, and retarded students to identify the social status of each group; the group's ability to predict their own status and that of their peers; and their ability to predict other students' learning rates. Subjects were provided with a list of names of all the students in the class and were asked to circle statements from four scales (e.g., the least positive items from each scale were: Scale 1 - if you don't want that person as a friend at all; Scale 2 - if that person doesn't want you as a friend at all; Scale 3 - if the person is very unpopular, chosen as a friend by no one; and Scale 4 - if the person learns new things with great difficulty). Superior students were the most popular and best at making predictions.

Chennault (1968) modified Miller's scale and found that cooperative group activities increased peer acceptance of unpopular retarded students in special classes. Two scales were used in this study; one to measure feelings toward peers and another to identify what they thought their peers felt about them.

Variations in Sociometric Questionnaires

Considerably lengthier sociometric questionnaires have queried students about classmates evidencing a variety of attributes. For example, Centers and Centers (1963) developed 17 questions about appearance, social relationships, and popularity to inquire about the status of amputee children in 28 regular classrooms; findings supported their rejected status.

In some cases, students have been asked to name peers according to different criteria. Two sociometric questionnaires were used to investigate the social status of speech impaired students. In the first, the directions asked students to choose five children who were "good speakers" who could tell about "what boys and girls of your age like to do after school." Next, the children were told to "choose the five people with whom you are most friendly and can work with best." When speech scores and friendship scores were compared for speech impaired and non-speech impaired class members, there were no significant differences in friendship choices. However, speech impaired children were chosen significantly less often than non-impaired for speaking ability, indicating that the students recognized the difficulty of such children (Freeman & Sonnega, 1956).

Using Sociometric Procedures with Professionals and Parents

Sociometric procedures have been used to query teachers and parents about their feelings toward children. Soldwedel and Terrell (1957)

administered sociometric instruments to physically handicapped and non-physically handicapped students and their parents. Students were asked whom they would like to sit by, play with, and take home to a party. Parents were asked to identify which students in the class their child had picked for each question and which child they would like their child to pick for each question. The results indicated: (1) physically handicapped were not chosen less by peers; (2) parents of handicapped children chose handicapped peers; and (3) parents of handicapped children were not as accurate in predicting their child's choices as parents of nonhandicapped children.

In another investigation (Marge, 1966) similar questions were developed for students and teachers. For example, teachers were asked to "Name three children in your class who would be good work or study leaders;" the complement for children was "Name three children in your class with whom you like to work or study at school." Results indicated that both groups assigned lower status to the speech handicapped.

INTERVIEWS

There are two types of interview procedures. In the unstructured interview, the interviewer is free to present the questions surrounding the purpose of the investigation. Structured interviews involve the use of interview schedules which generally contain yes-no, agree-disagree, or open-end items. Although unstructured interviews have been used to study the efficacy of mainstreaming (Barngrover, 1971), and special class programming (Keogh, Becker, Kukic, & Kukic, 1974), educational researchers have used structured interviews more frequently. Hollinger and Jones

(1970) interviewed community members to assess differences in perceptions of the labels "slow learner" and "mentally retarded." Interviewers answered agree-disagree and yes-no items, defined the terms "slow learner," and "mentally retarded," and were administered a social distance scale. The results indicated public confusion about these terms.

Meyers, Sitkei, and Watts (1966) were also interested in attitudes toward mental retardation and developed a questionnaire for interviewing a random sample of community members as well as parents of a child enrolled in a special classroom. These investigators asked questions about what should be done with a retarded child. Parents and selected samples of community members gave more positive responses.

In another study which involved interviewing community members, yes-no response items and open-end items were used. The results did not support relationships between formal education and attitudes toward mental illness (Freeman & Kassebaum, 1960).

Parent feelings about institutionalizing a retarded child have also been explored in the interview situation (Mercer, 1966). Open-ended questions were directed toward feelings prior to and after institutionalization to understand the stress created in the family.

OBSERVATIONS OF BEHAVIOR

Numerous observational systems have been developed to study classroom interactions (see Simon & Boyer's anthology, 1974). These systems identify categories of teacher and/or student behaviors and specific observable behaviors which may be subsumed under each category. A sampling plan (event, time or point-time sampling) is developed and used by observers in the classroom who record the actual occurrence of the specified behaviors.

For example, in one investigation (Lyon, 1977) teacher's nonverbal behaviors (eye-contact; expression, e.g., smile or frown; head movements, physical contact, or touching) toward students were observed and rated as positive, neutral, or negative at 10-second intervals. The physical distances between the students and teachers during interaction were also recorded. Findings indicated that students who were rated low in social-personality attributes were the recipients of a significantly greater number of negative nonverbal behaviors.

In another observational study, teachers exhibited greater "role distance" (evidenced through, e.g., the teachers' tone of voice, type of verbal interactions, movement patterns and gestures) toward slow learners than toward normal students (Khleif, 1976).

Student conversations with peers have also been monitored. Studies of learning disabled students' conversations with peers (Bryan, 1978; Bryan, Wheeler, Felcan, & Henek, 1976) suggest that these students experience fewer positive interactions.

A system was recently developed (Dunlop, Stoneman, & Cantrell, 1980) to observe interactions in a preschool classroom containing nonhandicapped students. Observers recorded behaviors related to five behavior categories over the course of the school year. Although results indicated that there were no significant differences in handicapped and nonhandicapped student interactions over time, there were differences initially. Thus, the findings support a need for observational studies that consider the longitudinal development of classroom relationships; this need is underscored by the findings from a sociometric instrument which had been administered at the beginning of the year wherein the nonhandicapped were chosen twice as often.

When behavioral observations of mother-child interactions have been undertaken, findings generally indicate differential patterns of interaction for mothers of handicapped and nonhandicapped students (Doleys, Cartelli, & Doster, 1976; Forehand, King, Peed, & Yoder, 1974; Marshall, Hegrenes, & Goldstein, 1973).

PROJECTIVE METHODS

Projective methods are a relatively unstructured technique for obtaining responses that researchers believe are effective in tapping the inner world of the individual, to reveal feelings, emotions, desires, and attitudes of which the individual may not be aware. This information is secured using drawings, interpreting responses to pictures, or as a result of sentence completion techniques. Lindzey (1959) classified projective methods according to the type of response required, that is, whether or not the technique required association (word association techniques are the most common approach); construction (e.g., the creation of a story or picture); completion (sentence completion); choice or ordering (subject chooses an answer); or expressive techniques (where the emphasis is on the manner of expression).

Although projective techniques have not been extensively used in studies of attitudes toward the handicapped, there are some examples.

The Thurston Sentence Completion Form (Thurston 1959) was administered to parents of handicapped. This test consists of 45 sentences for completion to measure feelings parents have about familial and community reactions, treatment, and expectations.

Billings (1963) used projective techniques with children in grades one, three, and six. The instruments developed for the study included the Tell Me a Story technique (in the first administration, students were asked to write stories about a girl in a picture, and in the second administration were told the picture was of "a little crippled girl.") and the Complete This Sentence procedure (students completed ten sentences, three of which were about a crippled child). Judges who evaluated the stories and sentences found that children had negative attitudes.

SOME SPECIAL TECHNIQUES AND MEASURES

It has been shown that a variety of procedures have been used to measure professional, peer, and parent attitudes. This section considers physiological reactions and the "bogus pipeline." Mainstreaming questionnaires represent a current trend in the literature and their use is reviewed.

Physiological Reactions and the "Bogus Pipeline"

Most attitude measurement procedures and techniques are represented in the literature dealing with attitudes toward exceptional groups. However, it should be recognized that other methods for measuring attitudes are being explored. These include physiological reactions such as galvanic skin responses and pupillary dilation which have generally been used in studies of racial prejudice.

The "bogus pipeline" procedure has also been used in research on racial stereotyping (Schlenker et al. 1976; Sigall & Page, 1971). This procedure was developed (Jones & Sigall, 1971) to overcome the response bias problems inherent in self-report measures. The "pipeline" into a

subject's covert feelings is really a deception technique whereby subjects are convinced that new developments in electromyography make it possible to accurately measure the direction and intensity of their attitudes.

Mainstreaming Questionnaires

The passage of P.L. 93-380 and P.L. 94-142 and the subsequent implementation of state mandates for the appropriate education of all handicapped children has resulted in the development and administration of a variety of questionnaires designed to query teachers about all aspects of this legislation. These questionnaires employ all types of measurement techniques to gather data. In some cases reliability and validity data are reported, although this is seldom the case.

Early in the implementation of the legislation, Carpenter and Robson (1979) designed a statewide (Indiana) survey of the knowledge and expectations held by special education directors, teachers, and parents toward the legislation. Directors were found most knowledgeable and parents most positive.

Graham, Hudson, Burdg, and Carpenter (1980) recently developed 17 statements about mainstreaming using a format which required respondents circle yes, a numeral from 1 to 10, or no. Factor analytic procedures used in developing the instrument indicated that five factors accounted for 64 percent of the variance ("Communication," "Attitudes or the Effectiveness of Mainstreaming," "Regular Teacher Mainstreaming Skills," "Assistance From the Resource Room," and "Attitudes on the Appropriateness of Mainstreaming"). The questionnaire was administered to regular and resource room teachers with differential results. Teachers felt they needed better communication

with resource teachers and that mainstreaming was an effective alternative; resource room teachers felt communication with classroom teachers was adequate but didn't think handicapped students benefited academically in the mainstream.

Factor analytic procedures were also used in developing a mainstreaming questionnaire for college of education faculty, graduate, and undergraduate students. The Mainstreaming Planning Inventory consists of 40 Likert-type items measuring eight factors: general attitudes toward handicapped, teacher attitudes toward mainstreaming, teacher confidence to work with the handicapped, impact of mainstreaming on classroom procedures, teacher attitudes toward handicapped students' behavior and motivation, teacher attitudes toward the effect of mainstreaming on handicapped students' self-concept and social relationships, teacher attitudes toward the effect of integration on nonhandicapped students, and teachers' attitudes about parental reactions to mainstreaming (May & Furst, 1977).

Larrivee and Cook (1979) developed 30 attitude statements which focused on handicapped student behavior in the classroom and its effect on teachers and peers. When they administered the scale to classroom teachers, who were also queried about the grade level they were teaching, the number of students in their class, the type of school they worked in (urban, suburban, or rural), their success in dealing with special needs students, the amount of administrative support they received, and the availability of additional support services, the latter three variables were shown to have a significant impact on teacher attitude. Adequate reliability is reported for this instrument.

Hudson, Graham, and Warner (1979) also designed a questionnaire about teacher attitudes toward mainstreaming. They reported adequate reliability and evidence of both content and construct validity. A four-point Likert-type format was used with 28 statements designed to measure teacher attitudes toward mainstreaming students; perceptions about time, materials, and support services for expertise for mainstreaming; and feelings about the efficacy of additional training. Results showed that a sample of elementary teachers in rural, suburban, and urban areas of Missouri and Kansas had negative attitudes.

In another investigation of teacher attitudes toward mainstreaming (Williams & Algozzine, 1977), teachers were provided with a definition and description for learning disabled, socially/emotionally disturbed, physically handicapped, and educable mentally retarded children. After reading each description, teachers responded to two questions using a Likert-type scale: the first asked about what portion of the exceptional students' education should be in the regular classroom; and the second required the teachers to rate "their ability to provide a meaningful educational program for the handicapped child." Results indicated that teachers were more willing and better equipped to teach physically handicapped and learning disabled students than socially/emotionally disturbed or educable mentally retarded children.

Vacc and Kurst (1977) also queried teachers about mainstreaming emotionally disturbed students. Responses to Likert-type attitude statements and a "pathophobic scale" designed to measure fears about emotionally disturbed children similarly indicated teachers had negative attitudes.

The purpose of the Index of Support Services (Speece & Mandell, 1980) is to survey teachers' feelings about the frequency and importance of support services for mainstreaming. This instrument consists of a list of twenty-six support services rated using a Likert-type scale. A sample of Ohio teachers indicated that nine resource room teacher services were critical for mainstreaming; these were related to assessment, remediation, and consultation.

Recently a 100-item questionnaire was designed to focus on teacher attitudes toward all aspects of individual educational programming (Semmel, 1979). Statements address training, experience, and knowledge about individualized educational programs (IEPs) and related diagnostic and prescriptive considerations.

There are a few examples of mainstreaming questionnaires using a yes-no response format. In one, teachers were negative about issues related to mainstreaming (Gickling & Theobald, 1975). Another study tested teachers before and after educable mentally retarded, emotionally disturbed, and learning disabled students were integrated into their classes. Although teachers became somewhat more positive toward the emotionally disturbed, the effects were minimal for the other two groups (Shotel, Iano, & McGettigan, 1972).

SOME COMMONLY USED INSTRUMENTS

Among the many instruments designed to measure teacher attitudes some have been more frequently used in investigations of professional, peer, and parent attitudes. This section deals with a general description of these instruments and investigations in which they were utilized.

Attitudes Toward Blindness Scale (ATBA)

The Attitudes Toward Blindness Scale (Cowen, Underberg, and Verrilo, 1958) was developed to measure parental attitudes toward blindness and uses items from scales developed by Steingisser (1954)and Fitting (1954). Item-test correlations and split-half reliabilities are reported on a sample of 101 subjects who were enrolled in adult education courses in psychology. The ATBA consists of 30 statements (e.g., a blind person might as well accept the fact that blindness makes prople pretty helpless) with a four-point Likert-type response format.

Kuhn (1971) investigated teacher attitudes toward blindness using the ATBA. Retitled the Blindness Information Scale, the instrument indicated no differences between the attitudes of teachers who had experienced a blind child in their regular classroom and those who had not. The ATBA Scale was also used by Marsh and Friedman (1972), who reported changes in attitudes toward blindness in high school students who participated in an attitude modification program.

Attitude Toward Disabled Persons Scale (ATDP)

In 1960, Yuker, Block, and Campbell published the original Attitude Toward Disabled Persons Scale, a Likert-type scale for measuring attitudes of disabled and nondisabled persons. More recently, two monographs have made available information about new developments in the scales and their use (Yuker, Block, & Young, 1970; Block, 1974). The ATDP is probably one of the best known and most widely used instruments for attitude measurement.

The ATDP groups all forms of disability into a single category called physically disabled. The intent of the authors was to provide a measure focusing on the concept of disability in a general way. The scales consist of statements designed to measure the extent to which respondents regard the physically disabled as different or inferior to nondisabled. There are three forms of the scale; forms A and B consist of 30 statements and form O contains 20 statements. Respondents indicate the extent to which they agree (+3, I agree very much; +2, I agree pretty much; +1, I agree a little; -1, I disagree a little; -2, I disagree pretty much; -3, I disagree very much) with statements such as "Disabled persons are usually easier to get along with than other people" and "Most disabled persons feel sorry for themselves." Scoring procedures result in a single total attitude score. Numerous investigations of the reliability and validity of the scales, reported in the monographs, demonstrate that the measure is relatively reliable and valid (the monographs should be consulted for a comprehensive report on investigations using the ATDP).

Wilson and Alcorn (1969) used the scale to measure the effects of simulation projects on the attitudes of college students enrolled in a course about the psychology of exceptional students. They found no significant differences and speculated about whether or not the findings were attributable to the nature of the project, or rather, that the ATDP was not sensitive to "quick attitude change." However, positive and differential effects of live, video, and audio experiences with handicapped on college student attitudes were identified in several investigations using the ATDP (Donaldson, 1976; Donaldson & Martinson, 1977; Evans,

1976); and the positive effect of contact experiences on the attitudes of diverse groups was also supported (Higgs, 1975).

Attitude changes in very young students have also been measured using the ATDP. Lazar, Gensley, and Orpet (1971 tested eight-year-old gifted children at the beginning and end of a four-week workshop designed to develop positive attitudes toward the handicapped and found the workshop experience had a significant effect.

When Simpson, Parish, and Cook (1976) used the scale with second-and third-grade students they substituted the word "handicapped" for "disabled" to facilitate the children's understanding, and asked them to indicate their responses by choosing from six smiling or frowning faces. Testing before and after a program designed to develop positive attitudes demonstrated the program was only partially successful.

Attiudes Toward Handicapped Individuals Scale (ATHI)

The Attitude Toward Handicapped Individuals Scale (Lazar, 1971) is a modification of the ATDP. The 30-item instrument contains statements similar to those found on the ATDP scale and uses the same Likert-type format and scoring procedure. In the ATHI, the term "disabled" was changed to "handicapped" in order to give broader meaning to the statements. Lazar, Stodden, and Sullivan (1976) reported a product-moment correlation between the ATHI and ATDP (Form D) of .802 and a coefficient of stability (test-retest) over a period of two weeks of .732; significance for both are at the .01 level. Lazar, Stodden, and Sullivan used the ATHI in an investigation of administrator attitudes toward the handicapped; results suggested that administrator attitudes are not necessarily positive.

The ATHI was also used in an investigation supporting sex differences in attitudes toward the handicapped (Skrtic, Sigler, & Lazar, 1975) and to explore the relationship among attitudes, personality, and educational background variables (Parker & Stodden, 1977). When the scale was used to study the attitudes of parents who had a child in a class for the educable mentally retarded (Lazar et al., 1976), both mothers and fathers evidenced high acceptance scores.

Mental Retardation Attitude Inventory (MRAI)

Harth (1971) developed the Mental Retardation Attitude Inventory (MRAI) to measure attitudes toward the retarded. Starting with a scale which measured ten dimensions or components of attitudes towards Negroes (Woodmansee & Cook, 1967), Harth sought to determine the relevancy of these dimensions for mentally retarded. Five subtests were selected from the Woodmansee-Cook Scale (Integration-segregation policy, Overfavorableness, Social Distance, Private Rights, and Subtle Derogatory Beliefs); the items were rewritten, primarily by changing the term Negroes to retarded, and subjected to expert review. Reliability of the MRAI was reported as a result of administering the measure to undergraduate students enrolled in general and special education. Pearson product-moment coefficients supported the relationship between subtest items, independence of the subtests, and a relationship with the total-test attitude score. Validity of the scale was demonstrated by comparing the MRAI scores of general and special education students.

When Kennon and Sandoval (1978) administered this scale to white and black regular and special class teachers, there were no significant

differences between the groups' attitudes toward mental retardation; however, white teachers demonstrated lower social distance scores and teachers who had contact were more positive.

Minnesota Teacher Attitude Inventory-Revised

The Minnesota Teacher Attitude Inventory (Cook, Leeds & Calles, 1951) was developed to measure teacher attitudes thought to be predictive of interpersonal relationships with students. Phillips (1976) revised the Inventory in order to investigate factors associated with classroom teachers' attitudes toward speech handicapped school children, teachers' understanding of speech disorders, and remediation procedures. The revision involved rephrasing items, substituting key words, and using some items in their original form; there were 50 items with three distrators (10 items to measure attitudes toward speech handicapped children, 10 items measuring understanding of speech handicaps and 20 items on remedial procedures which might be used). Responses indicated that attitudes were significantly related to teachers' having had a course in speech remediation, age, teaching experience, and access to a speech pathologist.

Parental Attitude Research Instrument (PARI)

The Parental Attitude Research Instrument was developed by Schaefer and Bell (1958) to measure attitudes toward child rearing. According to the authors, attitudes may be described along two orthogonal dimensions of autonomy-control and acceptance-rejection. Ricci (1970) found that mothers of normal, retarded, and emotionally disturbed were not more authoritarian than mothers of normal children although there were significant differences for the three groups on both scales. Mothers

of learning disabled children, however, have been found to be more authoritarian (Goldman & Barclay, 1974) using the PARI.

The PARI was revised for an investigation which demonstrated the relationship between religiosity and acceptance of a retarded child (Zuk, Miller, Bartram, & Kling, 1961). Items queried mothers about religious practices and attitudes, feelings, and beliefs about their retarded child.

Rucker-Gable Educational Programming Scale (RGEPS)

Rucker and Gable (1974) developed the Rucker-Gable Educational Programming Scale to measure teacher attitudes. Respondents are presented with 30 brief descriptions of children who exhibit behaviors typical of mentally retarded, emotionally disturbed, and learning disabled children. They are asked to read about each child and to select what is, in their opinion, the most appropriate educational placement for the child from a continuum of services (regular classroom placement, regular classroom placement with consultation, regular classroom placement with consultation and short-term direct services, regular classroom placement with resource room placement for up to two hours per day, part-time enrollment in a special class, and full-time special class placement). The teacher attitude score is indicated by the placement selection made, since this is considered an index of the degree of social distance the teacher prefers to maintain between himself and the student. Consequently, higher or more positive attitude scores are indicated by placement in the regular classroom. In addition to the total attitude score, subscores are obtained for attitudes toward mental retardation; emotional disturbance; learning disability; and mild, moderate, and severe handicaps. A knowledge score is obtainable

by computing the discrepancy between the placement made by the respondent and an expert opinion score on the placement provided by the test referent groups. Split-half internal consistency reliabilities for teachers range from .53 to .91 on the subscales; and the reliability is .86 for the total score.

The RGEPS was used in an investigation of the effects of coursework on classroom teachers' attitudes toward handicapped children (Shaw & Gillung, 1975). In this study teachers were administered the instrument before and after a course which combined classwork and experiential activities. As part of a follow-up the Scale was re-administered three months later. There were significant differences in teacher attitudes at posttesting and follow-up.

Morris and McCauley (1977) used the RGEPS to compare the knowledge or decisions made by Canadian administrators about placements with the RGEPS referent group and to investigate teacher attitudes. Administrators generally placed children more in the mainstream than the experts thought appropriate, and elementary classroom teachers were more positive than RGEPS experts or secondary teachers (administrator attitudes were not measured).

The RGEPS was also used in an investigation which showed that labels lower teacher expectations (Gillung & Rucker, 1977) and in a study which supported the effect of information and experience on teacher attitudes (Johnson & Cartwright, 1979).

Hirshoren and Burton (1979) contend that the RGEPS

> lacks a commitment, i.e., the extent to which the individual educator responding to the items is actually willing to contribute to the education of a child with a specific level and type of handicapping condition. It is not an inclusive instrument in that it is limited to issues involving only the mentally retarded, learning disabled and emotionally disturbed (pp. 94-95).

Consequently they designed a similar instrument using vignettes for five handicapping conditions (including mental retardation, behavior disorders, orthopedic handicaps, visual handicaps, and auditory handicaps). The vignettes describe five levels of severity for each condition and respondents are provided with six options (I can handle this child in my class without assistance; I can handle this child in my classroom if I get some consultation; I can handle this child in my classroom if he/she spends some time outside my class getting specialized instruction; I can handle this child part-time in my classroom if he/she is also enrolled in a special education class for a portion of the day; this child does not belong in my class; he/she should receive a full-time, self-contained special education program in the school; this child does not belong in the public school). No reliability or validity data are provided. When the scale was administered to teachers, findings indicated that most were willing to have a mildly handicapped child in their class; however, there were significant differences in the attitudes toward each of the handicapped groups.

Workshop Evaluation Inventory

Haring, Stern, and Cruichshank (1958) designed five instruments to measure the efficacy of a workshop designed to change teacher attitudes: 1) The General Information Inventory measured information teachers had

about exceptional students; 2) The Classroom Integration Inventory was administered to identify levels of acceptance for exceptional students; 3) The Activities Index was used to determine the personality structure of the teachers; 4) The Picture Judgment Test was used to measure attitudes toward handicapped and nonhandicapped students; and 5) the Critical Incident Technique was used to identify the degree to which teachers applied techniques learned in the workshop. Since a comprehensive review of the procedures is provided by the authors, these will not be discussed in detail. Findings in this study indicated that both knowledge about exceptional students and classroom experiences working with these students were important for attitude change to occur.

When Jordan and Proctor (1967) administered modifications of the Classroom Integration Inventory and the General Information Inventory, they found that special education teachers were more knowledgeable than regular classroom teachers, but did not have more positive attitudes.

CONCLUDING COMMENTS

This paper presents measurement techniques which have been used to study professional, peer and parent attitudes toward exceptional groups. The findings of investigations were briefly reviewed and are in concert with a previous examination of the literature (Horne, 1979) where it was suggested that the handicapped are assigned a lower status position in society.

An in-depth analysis of the investigations was deliberately avoided; however, it should be recognized that attitudes, and attitude changes, may be affected by a number of variables including age, sex, ethnicity,

education, socio-economic level, and contact. It is not possible to arrive at definitive conclusions about the relationships among these, however. Obviously, further research is necessary.

The author hopes that the preceding discussion will sensitize researchers and practitioners to the nature and pervasiveness of attitudes so that they will be stimulated to engage in study of the construct. Measuring attitudes is a difficult task. This monograph attempts to provide practical guidelines for developing data collection procedures that will begin to answer questions pertinent to understanding the attitude construct.

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